



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,870	07/02/2001	Rainer Sommer	10191/1867	1391
26646	7590	06/22/2005	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			RIZZUTO, KEVIN P	
			ART UNIT	PAPER NUMBER
			2183	
DATE MAILED: 06/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/897,870

Applicant(s)

SOMMER, RAINER

Examiner

Kevin P Rizzuto

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

RD

DETAILED ACTION

1. Claims 1-22 have been examined.
2. Acknowledgement of papers filed: Amendment filed on 4/14/2005. The papers filed have been placed on record.

Drawings

3. The drawings are objected to because they fail to have numbers and reference characters that are plain and legible. See attached Notice of Draftsperson's Patent Drawing Review sheet. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any

Art Unit: 2183

required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner withdraws the previous recommended title as applicant has pointed out that it only refers to one embodiment. However, the current title, "Method for Controlling the Program Run in a Microcontroller," is not, as the MPEP requires, "short and specific." Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-9, 17-18 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 6, line 1 on page 3 of the amended claims, states, "and a program executable on at least one microprocessor of *the a microcontroller*".

8. It is unclear whether "the microcontroller" refers to a new and separate microcontroller or the microcontroller that was previously claimed, and therefore claim 6 and the claims that depend from claim 6 are indefinite. Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Titherley, U.S. 4,489,414.

11. As per claim 1, Titherley teaches a method for controlling a run of a program executable on at least one microprocessor (8085A Microprocessor, figure 2) of a microcontroller, comprising the steps of:

a. Reading in information regarding a hardware of the microcontroller from at least one information register of the microcontroller: Module 7, EPROM 2716, is an information register that contains initialization routines to configure ports 12 and 13, to cause the peripheral to start the disc drive motor, to cause the display to display different messages and to prompt the user, and to make the microprocessor wait for data to be entered via the keyboard. The routines that are read in are information regarding hardware of the microcontroller. [Column 4, lines 25-64]

b. And actuating at least one switch via which the program run is controlled as a function of the information read in: The I/O ports 12 and 13 are reconfigured by the information read in, which is an actuation of at least one switch. A signal is set to the peripheral to start the motor, which

is also an actuation of a switch. The displays are altered to display different messages, which is an actuation of a switch as well. Each of these is caused by the information read in and affect the way the program is controlled. [Column 4, lines 25-64]

12. As per claim 2, Titherley teaches the method according to claim 1, wherein: the information read in corresponds to at least one of the at least one microprocessor of the microcontroller and at least one additional component of the microcontroller. The information read in corresponds to the Ports 12 and 13, an additional component of the microcontroller, because the information is used for initializing them. [Column 4, lines 25-64]

13. As per claim 3, Titherley teaches the method according to claim 1, further comprising the step of:

c. Controlling a run of a test program that is executable on the at least one microprocessor of the microcontroller of a testing device and is for testing at least one of an additional microcontroller of a control unit: The test program is for testing the peripheral (in the example, a disc drive). [Column 3, lines 4-5 and column 4, line 65 to column 5, line 40].

d. And a control program executable on at least one microprocessor of the additional microcontroller: The disc drive receives signals that make up commands from the microprocessor 8085A and I/O ports 12 and 13. The disc drive executes the commands it receives, the commands therefore making up an executable control program. Microprocessor is defined as, "An integrated circuit that contains the logic elements for

Art Unit: 2183

manipulating data and for making decisions.” (The Authoritative Dictionary of IEEE Standards Terms, 7th ed.) The disc drive receives signals and decides how to handle the signals, i.e., start the motor, read, write, etc. The disc drive also writes data to different areas of a disc, sometimes overwriting old data, and therefore is manipulating data. Therefore, a disc drive inherently has a microprocessor, which is executing the control program.

e. The controlling being performed as a function of information regarding a hardware of the additional microcontroller: The controlling being performed is a function of information entered by the user regarding the disc drive’s hardware specifications. [Column 4, lines 46-64]

14. As per claim 4, Titherley teaches the method according to claim 1, further comprising the step of:

f. Controlling a run of a control program that is executable on the at least one microprocessor of the microcontroller of a control unit: The user inputs information that controls the run of the control program that is executable on the microprocessor 8085A. [Column 4, lines 46-64]

g. And is for controlling/regulating technical operations and processes: The control program receives information from the user about the specifications of the disc drive. This is for controlling communications with the disc drive, which are technical operations and processes. [Column 4, lines 46-64]

Art Unit: 2183

- h. The controlling being performed as a function of the information regarding the hardware of the microcontroller. Communication with the peripheral occurs through ports 12 and 13, which was part of the information regarding the hardware of the microcontroller. [Column 4, lines 25-45]
15. As per claim 6, Titherley teaches a control element for one of a control unit of an internal combustion engine, the control element including a microcontroller, and a testing device for testing at least one of the microcontroller, the control unit including the microcontroller, and a program executable on at least one microprocessor of a microcontroller, the control element comprising:
- The "internal combustion engine" of the preamble is given no patentable weight because it is an intended use and has no further mention or disclosure in the body of the claim.
- i. A storage medium (Figure 2, 2716 EPROM) storing a program sequence that can be executed on a computing element (Figure 2, Microprocessor 8085A), the program sequence causing the computing element to: [Column 3, line 66 to column 4, line 6, column 4, lines 25 to column 5, line 14]
- j. Read in information regarding a hardware of the microcontroller from at least one information register of the microcontroller: EPROM 2716 is made up of addressable memory locations (i.e., registers), which contain information regarding hardware of the microcontroller (all of figure

Art Unit: 2183

2 except the peripheral under test, module 8). [Column 4, lines 25 to column 5, lines 14]

k. And actuate at least one switch via which a program run is controlled as a function of the information read in: The I/O ports 12 and 13 are reconfigured as output ports based on the information read from module 7 (EPROM 2716), which is an actuation of a switch. [Column 4, lines 25-37]

16. As per claim 7, Titherley teaches the control element according to claim 6, wherein: the computing element includes the at least one microprocessor: the computing element is Microprocessor 8085A. [Figure 2]

17. As per claim 8, Titherley teaches the control element according to claim 6, wherein: the storage medium includes one of a read only memory and a flash memory: The storage medium is EPROM 2716. [Figure 2]

18. As per claim 10, Titherley teaches a microcontroller, comprising:

l. At least one microprocessor (8085A Microprocessor, figure 2) including a program that is executable on the at least one microprocessor: Multiple routines are executed by the microprocessor. [Column 3, lines 23-33, and line 66 to column 4, line 6, column 4, lines 25-64]

m. At least one information register: EPROM 2716, (module 7), is contains addressable information. [Column 4, lines 25-50]

n. An arrangement for reading in information regarding a hardware of the microcontroller from the at least one information register: EPROM 2716 is made up of addressable memory locations (i.e., registers), which

Art Unit: 2183

contain information regarding hardware of the microcontroller (made up of all of figure 2 except the peripheral under test, module 8). [Column 4, lines 25 to column 5, lines 14]

o. And at least one switch actuatable as a function of the information read in: The I/O ports 12 and 13 are reconfigured as output ports based on the information read from module 7 (EPROM 2716), which is an actuation of a switch. [Column 4, lines 25-37]

p. And for controlling a run of the program executable on the at least one microprocessor: The I/O ports 12 and 13 are reconfigured as output ports based on the information read from module 7 (EPROM 2716), which are used for controlling a run of the program executable. Data is passed through the I/O that affects the control of the program. [Column 4, lines 25 to column 5, line 40]

19. As per claim 11, Titherley teaches the microcontroller according to claim 10, wherein: the information read in corresponds to at least one of the at least one microprocessor of the microcontroller and at least one additional component of the microcontroller: The information read in corresponds to the Ports 12 and 13, an additional component of the microcontroller, because the information is used for initializing them. [Column 4, lines 25-64]

20. As per claim 12, Titherley teaches the microcontroller according to claim 11, wherein: the information regarding the at least one additional component of the microcontroller includes information about at least one of an internal storage element, an analog/digital (A/D) converter, a digital/analog (D/A) converter, and

Art Unit: 2183

at least one databus: The information read in reconfigures the I/O ports 12 and 13, which are used to communicate with the peripheral under test via data buses. The information read is about data buses because it determines how the ports are configured and therefore how the data buses will be used. [Figure 2, column 4, lines 25-45 Column 3, lines 23-48]

21. As per claim 13, Titherley teaches the microcontroller according to claim 10, wherein: the microcontroller is part of a testing device for testing at least one of an additional microcontroller, a control unit, and the program executable on the at least one microprocessor: The microcontroller shown in figure 2 (all components except Peripheral Under Test, module 8) is for testing peripheral devices, and the example microcontroller is a disc drive. [Column 4, line 25 to column 5, line 40]

22. As per claim 14, Titherley teaches the microcontroller according to claim 10, wherein: the microcontroller is part of a control unit for controlling/regulating technical operations and processes. The microcontroller is for testing and exercising external devices or running self-diagnostic routines, which are technical operations and processes. [Column 3, line 66 to column 4, line 6 and abstract]

23. As per claim 16, Titherley teaches the method according to claim 2, wherein:

- q. The information regarding the at least one additional component of the microcontroller includes information about at least one of an internal storage element, an analog/digital (A/D) converter, a digital/analog (D/A)

converter, and at least one databus. The information read in reconfigures the I/O ports 12 and 13, which are used to communicate with the peripheral under test via data buses. The information read is about data buses because it determines how the ports are configured and therefore how the data buses will be used. [Figure 2, column 4, lines 25-45 Column 3, lines 23-48]

24. As per claim 17, Titherley teaches the control element according to claim 6, wherein:

r. The information read in corresponds to at least one of the at least one microprocessor of the microcontroller and at least one additional component of the microcontroller. The information read in corresponds to the Ports 12 and 13, an additional component of the microcontroller, because the information is used for initializing them. [Column 4, lines 25-64]

25. As per claim 18, Titherley teaches the control element according to claim 17, wherein:

s. The information regarding the at least one additional component of the microcontroller includes information about at least one of an internal storage element, an analog/digital (A/D) converter, a digital/analog (D/A) converter, and at least one databus. The information read in reconfigures the I/O ports 12 and 13, which are used to communicate with the peripheral under test via data buses. The information read is about data buses because it determines how the ports are configured and therefore

Art Unit: 2183

how the data buses will be used. [Figure 2, column 4, lines 25-45 Column 3, lines 23-48]

26. As per claim 19, Titherley teaches the method according to claim 1, wherein

t. The program run is controlled by one of activating and deactivating at least one of command sequences for specific features of the microcontroller and workarounds: (The testing program, once initialization is completed, allocates specific functions to the keys S1-S5. These test specific features of whatever peripheral is attached to the testing device via I/O connector 6 (shown in figure 2). Activating the specific testing command sequence occurs when any of the keys S1-S5 is pressed, and deactivating the command sequence occurs when the tests are finished. For instance, when S1 is pressed (activating), the drive will step to a specified track number, "then return to the routine which outputs the drive status and awaits a further key operation" (deactivating). [Column 4, line 55 to column 5, lines 40]

27. As per claim 20, Titherley teaches the method of claim 1, wherein:

u. The information read in corresponds to at least one of a manufacture, model, type and size of components of the microcontroller: The information is used to initialize components of a certain manufacture, model and type, and therefore corresponds to a manufacture, model and type. [Column 4, lines 25-45]

28. As per claim 21, Titherley teaches the control element of claim 6, wherein:

Art Unit: 2183

v. The information read in corresponds to at least one of a manufacture, model, type and size of components of the microcontroller: The information is used to initialize components of a certain manufacture, model and type, and therefore corresponds to a manufacture, model and type. [Column 4, lines 25-45]

29. As per claim 22, Titherley teaches the microcontroller according to claim 10, wherein:

w. The information read in corresponds to at least one of a manufacture, model, type and size of components of the microcontroller: The information is used to initialize components of a certain manufacture, model and type, and therefore corresponds to a manufacture, model and type. [Column 4, lines 25-45]

Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

31. Claims 5, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titherley, U.S. Patent 4,489,414, in view of Simar Jr. et al., U.S. Patent 6,182,203, herein referred to as Simar.

Art Unit: 2183

32. As per claim 5, Titherley teaches the method according to claim 4, wherein the invention shown in figure 2 is a portable, self-contained, engineer's diagnostic tool with can be used independent of a host computer for testing and controlling (during testing) of another device it is attached to. However, Titherley fails to further teach wherein the diagnostic tool is used for testing a device within a motor vehicle, and therefore fails to teach the technical operations and processes relate to a motor vehicle.

33. Simar teaches the use of processors in engine control units for motor vehicles in Figure 83 and column 88, lines 36-59. Simar also specifically teaches the use of their processor for real-time applications being used in engine control in column 88, lines 36-59.

34. It would have been obvious to one of ordinary skill in the art to use the disclosed portable diagnostic processor of Titherley to test a vehicle because it is portable and can be used independently of a host computer, which one of ordinary skill in the art would have recognized as being a benefit when testing device in a motor vehicle. This would have provided the motivation to use the invention of invention Titherley to test devices within a motor vehicle, and therefore having the technical operations and processes relating to a motor vehicle.

35. As per claim 9, Titherley teaches the control element according to claim 6 wherein the invention shown in figure 2 is a portable, self-contained, engineer's diagnostic tool with can be used independent of a host computer for testing and controlling (during testing) of another device it is attached to. However, Titherley

Art Unit: 2183

fails to further teach wherein the control element is for a control unit of an internal combustion engine and wherein the internal combustion engine is of a motor vehicle.

36. Simar teaches the use of processors in engine control units for motor vehicles in Figure 83 and column 88, lines 36-59. Simar also specifically teaches the use of their processor for real-time applications being used in engine control in column 88, lines 36-59.

37. It would have been obvious to one of ordinary skill in the art to use the disclosed portable diagnostic processor of Titherley to test a vehicle because it is portable and can be used independently of a host computer, which one of ordinary skill in the art would have recognized as being a benefit when testing a device in a motor vehicle. This would have provided the motivation to use the invention of Titherley to test devices within a motor vehicle, and therefore having the control element for a control unit of an internal combustion engine of a motor vehicle.

38. As per claim 15, Titherley teaches the microcontroller according to claim 14 wherein the invention shown in figure 2 is a portable, self-contained, engineer's diagnostic tool with can be used independent of a host computer for testing and controlling (during testing) of another device it is attached to.

However, Titherley fails to further teach wherein: the technical operations and processes relate to a motor vehicle.

39. Simar teaches the use of processors in engine control units for motor vehicles in Figure 83 and column 88, lines 36-59. Simar also specifically teaches

Art Unit: 2183

the use of their processor for real-time applications being used in engine control in column 88, lines 36-59.

40. It would have been obvious to one of ordinary skill in the art to use the disclosed portable diagnostic processor of Titherley to test a vehicle's microcontrollers because it is portable and can be used independently of a host computer, which one of ordinary skill in the art would have recognized as being a benefit when testing device in a motor vehicle. This would have provided the motivation to use the invention of invention Titherley to test devices within a motor vehicle, and therefore having the technical operations and processes relating to a motor vehicle.

Response to Arguments

41. Applicants arguments filed on 4/14/2005 have been fully considered and are found persuasive. However, the arguments are moot in view of the new rejections above.

Conclusion

The following is text cited from 37 CFR 1.111(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

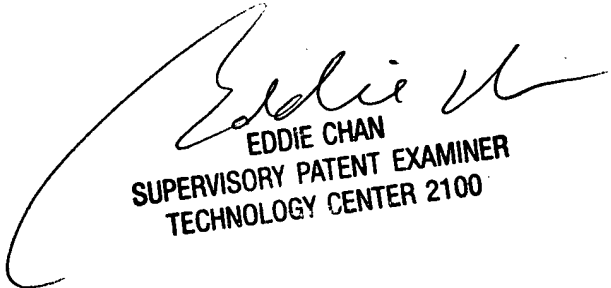
Art Unit: 2183

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Rizzuto whose telephone number is (571) 272-4174. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KPR



EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100